

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
NONRULE POLICY DOCUMENT

Title: **Approval of Alternate Emission Factors**

Identification Number: **Air-014-NPD**

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Other Policies Repealed or Amended:

Brief Description of Subject Matter: **Procedures and validation requirements for approval of alternate emission factors**

Citations Affected: **326 IAC 2-6-4(4)(E)(ii)**

This nonrule policy document is intended solely as guidance and does not have the effect of law or represent formal Indiana Department of Environmental Management (IDEM) decisions or final actions. This nonrule policy document shall be used in conjunction with applicable laws. It does not replace applicable laws, and if it conflicts with these laws, the laws shall control. A revision to this nonrule policy document may be put into effect by IDEM once the revised nonrule policy document is made available for public inspection and copying. IDEM will submit revisions to the Indiana Register for publication.

Background

An emission factor, for purposes of this policy, is defined as a representative value which attempts to relate the quantity of a pollutant released to the atmosphere (either directly or through vents, stacks or ducts which may or may not be associated with an air pollution control device) with an activity associated with the release of that pollutant. These factors are usually expressed as the concentration, mass emission rates or as the weight or mass of the pollutant divided by a unit of time, weight, volume, distance or duration of the activity emitting the pollutant.

Emission factors are used to calculate potential emissions for permitting purposes, estimate actual emissions for billing and develop emissions inventories for use in air quality planning. With the exception of the emissions statement rule, 326 IAC 2-6-4(4)(e)(ii), which requires the use of emission factors from AP-42 or a department approved alternative, there are no provisions that mandate the specific source of an emission factor. Traditionally, all calculations for permitting purposes are made using emission factors from AP-42, (the) Compilation of Air Pollutant Emission Factors, (AP-42) which has been produced by the U.S. EPA Office of Air Quality Planning and Standards. The U.S. EPA has compiled and rated emission factors in this document based upon available information, including stack tests and engineering estimates. The U.S. EPA also maintains other sources of emission factors which are considered equivalent to AP-42. An alternate emission factor is defined as one which is not found in AP-42 or other equivalent source (a New Source Performance Standard (NSPS), National Emissions Standard for Hazardous Air Pollutants (NESHAP) or other EPA database of emission factors). The department recognizes that source specific emission factors, when properly derived, are preferable to the generic factors developed by the U.S. EPA.

This non-rule policy outlines the requirements for approval of an alternate emission factor;

sources may wish to utilize an alternate emission factor to provide a more accurate estimation of emissions. This policy is necessary to better define what the emission factors are relative to a specific process or operation, regardless of whether emission factors were previously generated or published in the AP-42 document. AP-42 is, by its very general nature, at risk of being supplanted by site-specific data. With this non-rule policy, the department recognize that there may be differences in the conditions affecting emissions even for facilities in the same group to which the emission factor is applied, and that changes could have occurred in the facility operation that may affect the magnitude of emissions. This policy was written to allow IDEM to have some flexibility and consistency in addressing issues that may arise concerning AP-42 emission factors or other published results. As well, the policy will allow the agency to determine whether the values submitted can or cannot be completely validated for use by the source.

Policy

The following are guidelines for the request and approval of an alternate emission factor. An alternate emission factor is defined as one which is not found in AP-42 or other equivalent source (an NSPS/NESHAP or other U.S. EPA database of emission factors). An alternate emission factor may be developed if the source believes that the published factor does not appropriately represent their specific process, operation or pollution control equipment efficiency.

Emission factors developed through extensive testing conducted by trade associations or industry research groups, which have been published and subject to peer review, may be utilized without further validation as described in this policy. The use of data generated by a certified continuous emissions monitor which is operated and maintained in accordance with the applicable regulations may be used without further validation as described in this policy. Finally, the use of a material balance may be considered as an acceptable emission factor (without the need for further validation) provided the source owner/operator can substantiate the information provided. However, the use of any one of these acceptable options does not preclude the department from requiring compliance tests in permits issued by the department pursuant to the general authority provided by the Air Pollution Control Board rules.

In addition to the above presumptively acceptable options, a source may use an alternate emission factor (AEF) in calculations provided the following criteria are met:

- A. The AEF must be determined on a single facility basis. It is not appropriate to use an AEF developed for another facility unless the facilities are completely identical, both in design and method of operation. For identical facilities, the justification should include a detailed discussion of operating conditions and a description of the installations. Alternatively, if a source is seeking to use an AEF for a construction or operating permit and is basing the AEF upon testing conducted at a similar facility in another state or a pilot plant, the construction or operating permit should contain a requirement to conduct testing to validate the AEF. The requirement for pre-approval of the AEF will not substantially delay the issuance of a construction or operating permit.
- B. The AEF must be supported by reference method test data. The reference method testing must meet the requirements of 326 IAC 3-6, as applicable. This requires three (3) complete test runs conducted at 95-100% of maximum capacity under conditions

representative of normal, using test methods acceptable to the department.

C. For new AEFs, the source should submit a request to the Department detailing why the AEF is appropriate. The request for an AEF should contain, at a minimum, the following:

1. Description of process.
2. Description of control devices/control technology and relevant operating parameters.
3. Raw materials used in process which may impact emissions (scrap, oily, clean treated, percentages of raw materials).
4. Discussion of how the process will operate during the AEF determination.
5. Identification of the standard AP-42 (or equivalent source) emission factor for the process/control devices in operation.
6. Discussion of why the standard AP-42 emission factors are not appropriate to use in this situation; if the source is requesting a new AEF (to replace an AEF granted), a discussion of why a new AEF is being requested.
7. Test protocol pursuant to 326 IAC 3-6-2.
8. Discussion of any modeling conducted.

D. For existing sources using an alternate emission factor which has not been reviewed and approved by IDEM's Office of Air Management for emissions statements or billing, the department reserves the right to request that the source complete validation testing if feasible to substantiate the validity of the emission factor.

Upon completion of the AEF testing, the Compliance Data Section will review the report and prepare a summary report to the appropriate IDEM section (e.g., Permits, Data Support, Air Planning) acknowledging the AEF as valid or invalid with supporting information. All AEFs will be reviewed and more than one test series may be required if the proposed AEF would conflict with all available information, or if the results of the initial test series are inconclusive.

All AEF requests will be reviewed by IDEM. If a source in a local agency requests an AEF, the local agency personnel should coordinate with IDEM to insure that all the necessary information is received.

IDEM will maintain records of all AEFs granted. This information will be available for public inspection during normal business hours by contacting the IDEM's Office of Air Management, Compliance Data Section. The records will contain information necessary to substantiate the AEF with the exception of confidential information pursuant to 326 IAC 17. If you have any questions regarding the information contained in this non-rule policy document, you may contact Mr. David Cline at (317) 233-5668.